$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

F.A. PROJECT NO.

NOTES

ASSUMED LIVE LOAD ----------MS18 OR ALTERNATE LOADING.

DESIGN FILL----------

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

76mm Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 100mm OF ALL VERTICAL WALLS.

2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

THIS BARREL STANDARD TO BE USED ONLY ON QUADRUPLE BARREL CULVERTS LESS THAN 2.439m VERTICAL CLEARANCE ON 135° SKEW AND TO BE USED WITH STANDARD WING SHEET FOR THE SAME SKEW AND VERTICAL CLEARANCE.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 21.0m. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

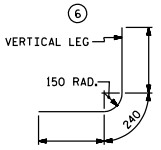
STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE	
BARREL @ _____ m^3 /m	_____ m^3
WINGS ETC.	_____ m^3
TOTAL	_____ m^3
REINFORCING STEEL	
BARREL	_____ kg
WINGS ETC.	_____ kg
TOTAL	_____ kg
CULVERT EXCAVATION ----------	LUMP SUM
FOUNDATION COND. MAT'L ----	METRIC TONS

LOCATION SKETCH



BAR TYPE
DIMENSIONS ARE OUT TO OUT

PROJECT NO. _____

_____ COUNTY

STATION: _____

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD
QUADRUPLE m X m
CONCRETE BOX CULVERT
WITH VERTICAL CLEARANCE
OF LESS THAN 2.4m

135° SKEW

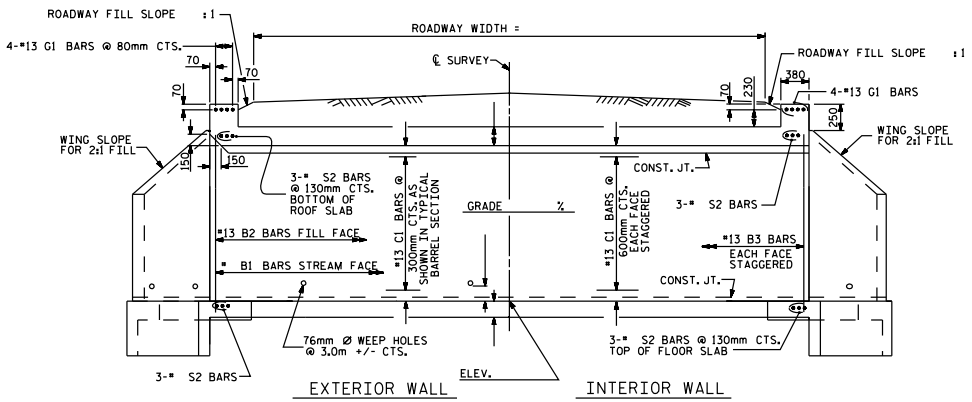
OCTOBER 1994

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

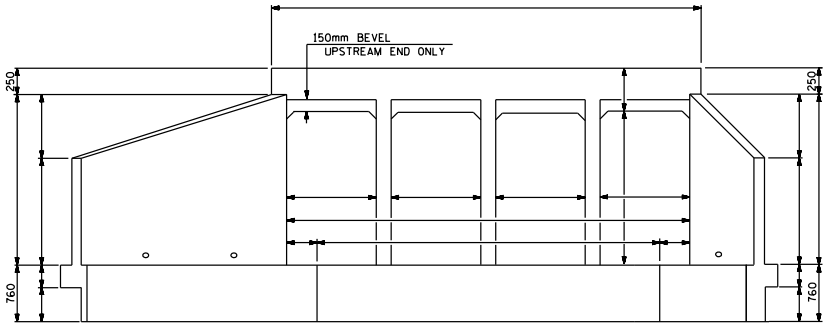
PROFILE ALONG ℄ CULVERT

ASSEMBLED BY :	DATE :
CHECKED BY :	DATE :
DRAWN BY : EEM 6/97	
CHECKED BY : ARB 7/97	

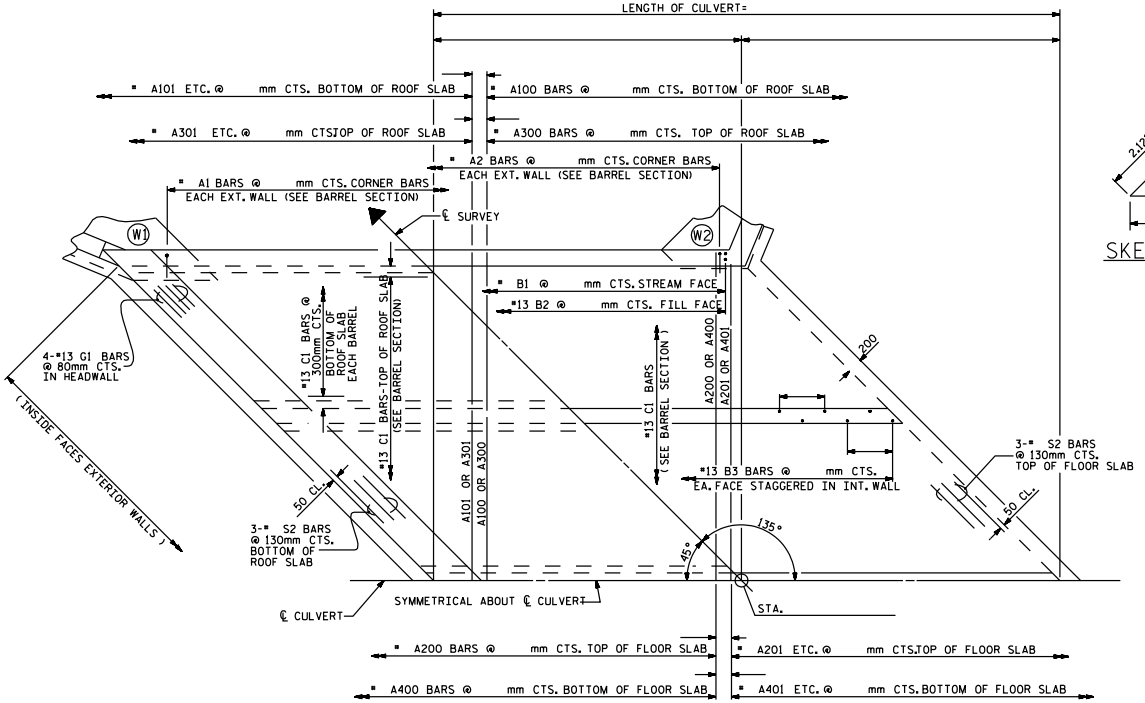
STD. No. CB4135SM



CULVERT SECTION NORMAL TO ROADWAY

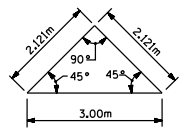


END ELEVATION NORMAL TO SKEW

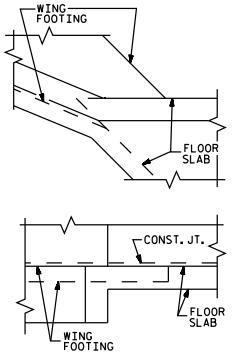


PART PLAN - ROOF SLAB

PART PLAN - FLOOR SLAB



SKEW TRIANGLE



DETAIL
CONNECTION OF WING FOOTING AND FLOOR SLAB WHEN SLAB IS THICKER THAN FOOTING

METRIC

PROJECT NO. _____

_____ COUNTY

STATION: _____

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD QUADRUPLE m X m CONCRETE BOX CULVERT WITH VERTICAL CLEARANCE OF LESS THAN 2.4m

135° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

STD. No. CB4135SM

ASSEMBLED BY :	DATE :
CHECKED BY :	DATE :
DRAWN BY : EEW 6/97	
CHECKED BY : ARB 7/97	